# WIRELESS AS A SCHOOL SUBJECT.

## INTERESTING EXPERIMENT AT GRAYSWOOD.

The Church School at Grayswood is perhaps unique amongst elementary schools, inasmuch as it possesses a wireless station of its own, and an interesting account of the work which is being done is contributed by Mr. R. J. Hibberd, the headmaster, to a recent number of "The Wireless World." Some details will, no doubt, be welcome to our readers.

The fact that I possessed a wireless set, writes Mr. Hibberd, created curiosity and interest amongst my pupils, boys and girls, and I decided, therefore, to introduce the subject into the school curriculum. Of course, this appeared rather a difficult matter, owing to the lack of scientific knowledge among the children and the necessity of imparting knowledge in a very non-technical manner. However, these difficulties were overcome, and readers will perhaps be interested to learn of what real value wireless can be in a school. The course commenced by teaching the fundamental principles of electricity and magnetism, and as often as possible its relation to wireless was introduced and emphasized in regard to its functions in this respect. In the meantime the upper class, which consists chiefly of Boy Scouts and Girl Guides, was busy learning the Morse code. By the end of the first term surprising results were obtained, and we were thus enabled to commence on real wireless work during the second term. A single wire aerial, 100 feet in length, was fixed from a tall oak tree to one of the school chimneys, and having an L type "lead in." Our set was then got together. It consists of a Mark III. short tune waver, into which is introduced a coil and which was constructed by some of the boys. The aerial tuning condenser of the S.W.T. was also "tapped off," and is connected to one of F. O. Read's W160 two-valve sets. A "Burndept" coil is attached to the valve set, and also a "loud speaker." When working, one pupil listens to spark signals by means of a pair of Brown's telephones connected to S.W.T., whilst the rest of the class can hear by means of the "loud speaker," which is connected to valve set. The same condenser is used for both sets, adjustments being made by means of a slider on large coil, and variable capacity reaction condenser on valve set. By having both sets working at the same time, the pupils can compare respective strengths of signals (in the case of spark), and realise thereby the real value and function of valves.

Despite the sheltered position of the school, splendid results are obtained. The Eiffel Tower time signals, which are taken each day, and the school clock adjusted accordingly, can be heard by the whole class of fifty-six children. Nauen, Coltana, Taranto, Malta have been picked up in great strength, and, of course, we get Horsea "hot and strong," being only 25 miles distant.

Not only as a science lesson has wireless proved of great value, but also in the teaching of physical geography. Weather reports are taken, and these are decoded by me, and the information gained used in explaining climatic conditions and weather phenomena existing in Europe, and the necessity of gaining speedy weather reports. When the pupils improve in knowledge the calculation of wave lengths, etc., will be introduced in the mathematics lessons. Only by experience can one fully realise what a real value wireless can be in a school. It commands the pupils keenest interest, and the educational value cannot be over-estimated. Of course, in a secondary school, it can be developed still further by the reception of foreign news, which can be translated in the language lessons, thus dispensing with the dry-as-dust French or German primer, and at the same time imparting to the scholars an up-to-date knowledge of the form of expression of the language received.

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# WIRELESS IN SCHOOLS.

**By R.**

Education seeks to be thoroughly up to date in both Grammar schools and elementary schools, so it is hardly surprising that many masters have already incorporated wireless in their curriculum. So far the experiments have been extremely useful and entirely successful. In a few schools the subject has been studied for several years, but broadcasting has given a great stimulus to the idea.

Teachers find that the construction or assembly of the necessary apparatus is an excellent course in electrical engineering. The continual developments in this particular branch cause the interest to be maintained, while the relative newness of the idea appeals to the boys as keeping them au fait with present-day developments.

Listening-in is perhaps little more than amusement at present—a reward for other efforts. But the musical programmes are decidedly educative, and if the idea grows it would be an easy matter to arrange special features one afternoon each week.

So far the type of apparatus has varied according to the circumstances of each school. It is hoped, however, that equipment may be standardised later on. Usually an indoor aerial is employed, and a loud speaker is almost a necessity. After receiving tuition, many boys have made receiving sets of their own, often using most unpromising materials. A crystal set in a cigar-box and even in a match-box—are not unknown. Unfortunately the license fee is a serious proposition to boys in elementary schools, but requests for special consideration are to be made.

In London twenty-five L.C.C. schools have equipment. Pangbourne Nautical College, Dover County School, Bootham School at York, Harrow School, King's School at Peterborough, Winchester School, Exeter Grammar School, and at least a dozen others also possess wireless sets. Mr. J. R. Hobberd, M.I.R.E., is now seeking to organise a Schools' Radio Society, so that the interesting study may be systematised and extended.